

**INTEGRATED MODEL PREDICTIVE CONTROL AND  
OPTIMIZATION WITHIN A PROCESS CONTROL SYSTEM**

**ABSTRACT**

A process control configuration system is provided for use in creating or viewing an integrated optimization and control block that implements an optimization routine and a multiple-input/multiple-output control routine. The configuration system may enable a user to display or configure the optimizer or the control routine. A storage routine may store information pertaining to a plurality of control and auxiliary variables and to a plurality of manipulated variables to be used by the optimization routine and/or the control routine. A display routine may present a display to a user regarding the information pertaining to the plurality of control and auxiliary variables and to the plurality of manipulated variables.